Dr. Ruth C(lifford) Engs - Presentations, Publications & Research Data Collection.

The health concerns of students in Guangxi, P.R. China

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ABSTRACT

The purpose of the study was to determine baseline data on concerns students have about health issues for curriculum planning in a University and college in Nanning, PRC. A purpose was also to determine if there was a difference between male and female student's concerns. A Chinese translation of the 50 item Health Concern Questionnaire was administered to a convenience sample of 190 students in two classrooms at Guangxi University and Guangxi National College in Spring 1993. The reliability of the Chinese translation was calculated. Results of both the Guttman's split-half technique and the Spearman-Brown formulae were .92. Results of a t-test revealed no significant difference between males and females on the total health concern score. However, significant differences were found with several items between the genders. Female students were significantly ($p<.05$) more concerned about air pollution, colds, cancer, death, headaches, nervousness, and overweight. Males were more concerned by alcohol dependence, birth control, and sexually transmitted disease. The top health concern for both groups was finding an ideal partner, followed by birth control for males and air pollution for females. Water pollution, what I'll be like in 10 or 15 years were the third and fourth top ranking concerns respectively for both groups. It was concluded that health education curriculum needs to address items of concern to both groups.

INTRODUCTION

The assessment of students in terms about their concerns of various common health issues is useful for curriculum planning.. Males and females have been shown to differences in regards to health concerns. Thus the purpose of this study was to determine the health concerns of students at Guangxi University and Guangxi National College to determine if there were differences between the genders in regards to concerns about different items. The null hypotheses for this

descriptive study were that there would be no significant difference in terms of degree of health concerns between the two groups nor between the different item.

METHODS

Instrument

Over the past 20 years, the *Health Concern Questionnaire* (HCQ) has been used by educators to rank college students concerns about health related issues. These have been used for curriculum planning in personal health classes and research studies attempting to determine current health concerns (Schaaldt and Engs, 1971), health concerns in relationship to specific health areas (Engs,1983), the changes of health concerns over time (Goodrow, 1977; Engs, 1985) and cross-cultural aspects of health concerns(Engs and Badr, 1984).

The *Health Concern Questionnaire* was originally developed by Engs as a master's thesis in 1971 at the University of Oregon. A revised version with more up to date terms and a re-evaluation of its reliability was undertaken in 1987 (Engs, 1989). This instrument contains 50 items pertaining to health items and requests students to indicate their degree of concern for each item. The reliability coefficient for the Chinese translation of this instrument for both Guttman's split-half technique and the Spearman-Brown formulae were .92.

Items were translated by the first author and "back translated" by Chun-Ying Chen, Quangxi Medical College, Nanning, PRC. A limitation of the study is that some questions may not have had the same or exactly equivalent meaning in Guangxi province

Degree of Concern and Total Concern Score

Students were asked to indicated their degree of concern for each item by using the number "5" for Extremely Concerned, "4" for Very Concerned, "3" for Moderately Concerned, "2" for Mildly Concerned, and "1" for Not Concerned. To interpret the results for comparisons across groups, each item was given a value range. "Extremely Concerned" = 5.00-4.56, "Very Concerned"=4.5-3.56, etc.

A mean health concern score was determined for each student by summing the numbers. Factor analysis on the updated questionnaire had revealed two factors. The correlation between the two factors was highly positive (r=.58), thus the 50 items were considered one factor for calculation of a total score (Engs 1989).

Ranking of health concerns

To rank the items, the highest to lowest mean score of each item was determined. In case of ties the item with the greatest variance was ranked first.

Sample

The convenience sample for this study consisted of undergraduate students attending Guangxi University and Guangxi National College in Nanning, the capital of Guangxi province. This rural inland province is located in the southeastern part of the People's Republic of China. Approximately 7,000 students attended Guangxi University and about 3,500 attend Guangxi National College (Guangxi yearbook Editorial Group, 1992).

During the autumn term of the 1993-1994 academic year, students in several "study classrooms," where students are assigned to study when not attending classes, were asked to participate in the survey by the Chinese author. The students were informed that the study was a collaborated effort with American researchers and that responses were anonymous. The response rate was 100%. Of the 190 individuals who completed questionnaires, 55.3% were liberal arts and 44.7% were science and engineering students. In terms of class year, 37.9% were first, 48.4% second, 5.3% third, and 8.4% were fourth year students. Of the total sample, 58.5% were male and 41.5% female. The mean age was 21.1 years and ranged from 18 to 35 years of age.

RESULTS

Both Null hypotheses were rejected. Table 1 reveals that the top health concern for both groups was finding an ideal partner, followed by birth control for males and air pollution for females. Water pollution, what I'll be like in 10 or 15 years was the third and fourth top ranking concerns respectively for both groups.

Results of a *t*-test revealed no significant difference between males and females on the total health concern score. However, significant differences were found with several items between the genders (See Table 2). Female students were significantly ($p<.05$) more concerned about air pollution, colds, cancer, death, headaches, nervousness, and overweight. Males were more concerned by alcohol dependence, birth control, and sexually transmitted disease

CONCLUSIONS

It is curious that male students were concerned by birth control and sexually transmitted disease. Perhaps due to the one child policy in the PRC, they were concerned they would impregnate

their girlfriends or become infected with a STD. In view of this policy, and more young males compared to females in the population, "finding the ideal partner" could be seen as an issue in a limited pool of partners for males. However, with more males than females in this young age group, it is curious why this would be a concern for females. It is possible that the meaning of the question was lost in translation from English to Chinese. It was concluded that health education curriculum needs to address items of concern of undergraduate students.

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Table 1: Ranking Top 10 Health Concerns by Mean Score of Male and Female Students at Guangxi University			
Males		Females	
Health Concerns	Means Score	Health Concerns	Means Score
Ideal partner	3.2	Ideal Partner	3.1
Birth Control	2.9	Air Pollution	3.1
Water pollution	2.8	Water pollution	3.0
What I'll be like in 10 or 15 years	2.8	What I'll be like in 10 or 15 years	2.9
Air pollution	2.8	Headache	2.8
Childbirth	2.7	Cancer	2.8
Eye disorders and blindness	2.7	Childbirth	2.7
Population explosion	2.7	Deaths	2.7
Auto accidents	2.6	Eye disorders and blindness	2.7
Accidents due to electric current	2.5	Mononucleosis	2.6
		Poor teeth and decay	2.6
		Population explosion	2.6

Table 2: T-Test results of mean health concerns score between students at Guangxi University for 50 health items

Health Concerns	**Males** (n = 110)	**Females** (n = 78)	
	$\bar{X}$ (SD)	$\bar{X}$ (SD)	t
Acne	1.9 (1.0)	2.0 (1.1)	.6
AIDS	2.1 (1.2)	1.9 (0.9)	1.2
Airplane accidents	1.8 (1.0)	2.1 (0.9)	1.7
Air pollution	2.8 (1.0)	3.1 (0.9)	2.0+
Accidents due to electric current	2.5 (1.0)	2.4 (0.9)	.4
Alcohol dependents	2.0 (1.0)	1.7 (0.9)	2.1+
Auto accidents	2.6 (0.9)	2.5 (0.8)	.8
Biological and chemical warfare	2.3 (1.1)	2.2 (0.8)	.9
Birth Control	2.9 (1.0)	2.5 (0.9)	2.6+
Being burned	2.2 (0.9)	2.3 (0.9)	.5
Colds	2.2 (1.0)	2.6 (0.9)	2.8+
Cancer	2.4 (1.2)	2.8 (1.0)	2.4+
Childbirth	2.7 (1.1)	2.7 (0.8)	.0
Combat	2.0 (1.2)	2.4 (1.1)	1.8
Death	2.3 (1.2)	2.7 (1.0)	2.1+
Drowning	2.2 (1.0)	2.4 (.90)	1.5
Drug abuse	2.3 (1.2)	2.0 (1.0)	1.7
Eye disorders and blindness	2.7 (1.0)	2.7 (0.9)	.2
Emphysema or respiratory disease	2.2 (1.0)	2.4 (0.9)	1.7
Firearm Accidents	2.0 (1.0)	1.9 (0.9)	.4
Heart Disease	2.3 (1.1)	2.3 (1.0)	.0
Halitosis (bad breath)	2.4 (1.0)	2.3 (0.9)	.6
Headaches	2.4 (1.0)	2.8 (1.0)	2.6+

Homosexuality	1.6 (1.0)	1.5 (0.8)	.5
Ideal Partner	3.2 (1.0)	3.1 (1.1)	.6
Kidney disease	2.3 (1.1)	2.3 (0.8)	.2
Liver diseases	2.4 (1.1)	2.3 (1.0)	.8
Masturbation	1.9 (1.1)	1.8 (0.9)	1.1
Mental illness	2.3 (1.1)	2.5 (1.0)	.7
Moodiness	2.4 (1.0)	2.5 (1.0)	.7
Mononucleosis	2.4 (1.0)	2.6 (0.9)	1.4
Nausea	1.9 (1.0)	2.0 (0.9)	1.4
Nervousness	1.8 (1.0)	2.4 (1.0)	3.6*
Nuclear Warfare	2.2 (1.2)	2.2 (0.9)	.2
Overweight	1.9 (1.1)	2.5 (1.1)	3.5+
Poor teeth and decay	2.3 (1.1)	2.6 (1.1)	1.7
Population explosion	2.7 (1.1)	2.6 (0.9)	.7
Pregnancy	1.9 (1.1)	2.2 (1.1)	1.8
Poisoning by snakes	2.4 (1.2)	2.4 (1.1)	.2
Radiation	2.1 (1.1)	2.0 (1.0)	.9
Promiscuity	2.3 (1.2)	2.1 (1.0)	1.5
Sexually Transmitted disease other than AIDS	2.4 (1.2)	2.1 (1.1)	2.2+
Smoking and disease	2.3 (1.1)	2.3 (1.1)	.2
Starvation and Malnutrition	2.4 (1.1)	2.5 (1.0)	.3
Sterility	2.4 (1.2)	2.2 (1.2)	1.0
Suicide	2.0 (1.2)	2.1 (1.0)	.6
Tuberculosis	2.1 (1.1)	2.2 (1.0)	.3
Use of contraceptive	2.1 (1.2)	1.9 (1.1)	1.4
Water pollution	2.8 (1.1)	3.0 (1.1)	1.0
What I'll be like in 10 or 15 years	2.8 (1.1)	2.9 (1.0)	.3